



**CLEAN VERSION OF ABSTRACT**

**VIA-IN-PAD WITH OFF-CENTER GEOMETRY (as amended)**

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**Abstract of the Disclosure**

The electrical contacts, such as ball grid array (BGA) solder balls, of an integrated circuit are coupled to printed circuit board (PCB) bonding pads that include vias. According to one embodiment of an electronic assembly, the vias are formed off-center, so as to inhibit bridging between adjacent solder balls during a solder reflow operation by minimizing the effect of solder ball ballooning resulting from outgassing of a thermally expansive substance, such as a volatile organic compound (VOC) from the via channels. A substrate and an electronic system are also described.